

C l a i m s

1. Configurable diffractive optical element comprising an array of diffractive sub-elements having a reflective surface, wherein each sub-element has a controllable position with a chosen range, and in which a number of sub-elements are provided with a reflective grating with a number of chosen spectral characteristics.  
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2. Diffractive optical element according to claim 1 wherein the physical size of the sub-element being provided with a diffractive grating is substantially larger than  
10 the typical spatial period of the diffractive grating on said sub-element
3. Diffractive optical element according to claim 1 wherein the position of each sub-element is adjustable in a direction perpendicular to the element surface.  
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4. Diffractive optical element according to claim 1 wherein the position of each sub-element is adjustable in a direction parallel to the element surface.
5. Diffractive optical element according to claim 1 wherein the position of each sub-element is adjustable in a direction parallel to the optical axis of the incoming  
20 or reflected light beam.
6. Diffractive optical element according to claim 1 wherein the gratings on the sub-elements being provided with a diffractive grating, constitutes a diffractive lens.
- 25 7. Diffractive optical element according to claim 1 wherein the array of sub-elements is a two-dimensional array.